

POLYPODIACEAE

(William R. Maxon, Washington, D. C.)

DRYOPTERIS HOSTMANNI (Kl.) Maxon & Morton. VERAGUAS: trail between Cañazas and the foot of the Cordillera Central, headwaters of Río Cañazas, alt. 300–600 m., Feb. 8, 1937, (*Allen 164*). Previously known only from British and Dutch Guiana.

DRYOPTERIS LINDIGII C. Chr. VERAGUAS: trail between Cañazas and the foot of the Cordillera Central, headwaters of Río Cañazas, alt. 300–600 m., Feb. 8, 1937 (*Allen 171*). Previously known from Costa Rica, Colombia, and Venezuela.

ELAPHOGLOSSUM SILIQUOIDES (Jenman) C. Chr. COCLÉ: vicinity of El Valle, alt. 700–1000 m., very cool, dark forest, Feb. 14, 1937 (*Allen 233*). Previously known from Jamaica, Cuba, Hispaniola, Guatemala, and Costa Rica.

AMARYLLIDACEAE

CRINUM darienensis Woodson, spec. nov.; bulbis non bene evolutis ovato-oblongoideis 1.2–1.7 cm. diametro stoloniferis; foliis basi amplexicaulibus in vagina productis 20–32 cm. longis, lamina oblongo-elliptica apice abrupte subcaudato-acuminata plana delicate subsucculento-membranacea 3.5–5.5 cm. lata basi obtusa in petiolo 0.6–1.0 cm. lato producta, margine subcartilagine eroso-denticulato, vagina 3–5 cm. longa 0.8–1.5 cm. lata; pedunculis 9–14 cm. longis 2–4-floris, spatha sub anthesi usque basin 2-partita parte utraque ensiformi ad 7 cm. longa; floribus sessilibus; perianthi tubo gracillimo 21–25 cm. longo basi ca. 0.15 cm. diametro prope fauces paullo dilatato ut videtur albido, lobis oblongo-ellipticis apice acuminatis albis 7.5–8.0 cm. longis 1.2–1.5 cm. latis; staminis filamenta subulata rubra ca. 4 cm. longa, anthera oblonga arcuata 1.2 cm. longa; ovario ellipsoideo 1.2–1.5 cm. longo ca. 0.4 cm. diametro, stylo rubro 4.5 cm. longo, stigmatate punctiforme.—*DARIEN*: trail between Pinogana and Yavisa, alt. ca. 15 m., March 17, 1937, *P. H. Allen 264* (Herb. Missouri Bot. Garden, TYPE).

This plant is scarcely to be confused with the neighboring

C. erubescens, or with any other species known to me, because of the small leaves of unusual shape for the genus, and the small, poorly developed bulbs which consist scarcely of more than the sheathing leaf bases. Several plants of this species were collected by Mr. Allen, all agreeing with the general description. The flowers are said to be delicately fragrant. A peculiar tendency for the sap of cut bulbs to oxidize to a dull red has been noticed upon all of the specimens.

BURMANNIACEAE

(*F. P. Jonker, Utrecht*)

GYMNOSIPHON SUAVEOLENS (Karst.) Urb. CHIRIQUÍ: valley of the upper Río Chiriquí Viejo, alt. 1300–1900 m., July–Aug., 1937 (*Gene & Peggy White 15, 24*). Previously known from Mexico, Guatemala, Costa Rica, Colombia, Venezuela, and Brazil.

ORCHIDACEAE

(*Charles Schweinfurth, Cambridge, Mass.*)

CYCNOCHES CHLOROCHILON Kl. PANAMÁ: Río La Maestra, alt. 0–25 m., Dec. 4, 1936 (*Allen 65*). Previously known from British Honduras, Venezuela, Colombia, and British Guiana.

CRANICHIS MUSCOSA Sw. COCLÉ: vicinity of El Valle, alt. 800–1000 m., terrestrial, among rocks along stream, Dec. 22, 1936 (*Allen 74*). Previously known from Florida, Costa Rica, the West Indies, and Venezuela.

PIPERACEAE

(*William Trelease, Urbana, Ill.*)

PEPEROMIA **Alleni** Trelease, spec. nov. Herba epiphytica repens omnino glabra parva sed comparate megaphylla; caule graciliusculo; foliis oppositis orbicularibus vel subovato-ellipticis apice basique acutis subacutisve, ca. 1.5 × 2.0 cm., 3-nervatis post exsiccationem coriaceis, petiolo 0.5 cm. longo; spicibus terminalibus etiam 0.1 × 3.0 cm., pedunculo 1.5 cm. longo.—DARIEN: Pinogana-Yavisa trail, alt. 15 m., March 17, 1937, *P. H. Allen 262* (Herb. Missouri Bot. Garden, TYPE).

PEPEROMIA cocleana Trelease, spec. nov. Herba repens parva foliis exceptis omnino glabra; caule filiforme, internodiis brevibus; foliis alternatis orbicularibus obtusis vel subtruncatis basi acutis vix 0.5 cm. diametro metientibus, ciliatis; petiolo filiforme 0.2 cm. longo; spicibus axillaribus vix 0.2×0.4 cm., pedunculo vix 0.5 cm. longo.—COCLÉ: on boulders, upper Río Mata Ahogado valley, alt. 350 m., Dec. 31, 1936, *P. H. Allen 133* (Herb. University of Illinois, TYPE, Herb. Missouri Bot. Garden, ISOTYPE).

PIPER Alleni Trelease, spec. nov. Arbor ca. 7 m. alta; internodiis gracilibus sat brevibus sparse subvelutinis; foliis lanceolatis apice anguste acuminatis basi oblique subacutis 6.0–6.5 cm. latis 17–18 cm. longis inferne pinnate nervatis, nervis ca. $5 + 2$, supra lepidoto-scabridulis subtus subvelutinis; spicibus rectibus 0.2×5.0 cm., pedunculo 0.5–1.0 cm. longo.—DARIEN: Pinogana-Yavisa trail, alt. 15 m., March 17, 1937, *P. H. Allen 270* (Herb. University of Illinois, TYPE, Herb. Missouri Bot. Garden, ISOTYPE).

Mr. Allen reports that the roots are said to be used to deaden pain, and the leaves as an antidote for snake venom.

PIPER canyazasense Trelease, spec. nov. Arborescens ca. 2 m. alta; internodiis superis gracilibus brevibusque puberulis; foliis elliptico-lanceolatis apice falcate angusteque acuminatis basi inaequilateraliter rotundatis 11–15 cm. longis 4.5–5.0 cm. latis inferne pinnate nervatis, nervis ca. $6 + 5$, leviter rugosis ciliatis supra minute scabro-pubescentibus subtus puberulis, petiolo ca. 0.5 cm. longo velutino; spicibus vix 0.2×1.5 cm., brevi-pedunculatis.—VERAGUAS: Cañazas trail to the central cordillera, alt. 300–600 m., Feb. 8, 1937, *P. H. Allen 185* (Herb. University of Illinois, TYPE, Herb. Missouri Bot. Garden, ISOTYPE).

PIPER SAN-JOSEANUM C.DC. var. **chiriquinum** Trelease, var. nov. Frutex ca. 2 m. altus; foliis ovatis acuminatis basi retuse subtruncatis 10–13 cm. longis 8–10 cm. latis, petiolo 4 cm. longo; spicibus rectibus vel reflexis 0.3×12.5 cm., pedunculo 0.5 cm. longo.—CHIRIQUÍ: between Río Tabasará and Río Tinta, Aug. 11, 1937, *Woodson, Allen & Seibert 416* (Herb. Missouri Bot. Garden, TYPE).

PIPER tabasaranum Trelease, spec. nov. Arbor parva ca. 4–5 m. alta omnino glabra; internodiis graciliusculis brevibus; foliis ellipticis breve-caudatis basi acutis 4.0–5.5 cm. latis 9–10 cm. longis 5-jugis, nervis utrinque prominentibus, petiolo vix 0.5 cm. longo; spicibus ca. 0.3 × 5.0 cm., floribus congestis, pedunculo 1 cm. longo, bracteis subcucullatis; baccis ovoideis; stigmatibus 3 sessilibus.—CHIRIQUÍ: banks of lower Río Tabasará, Aug. 12, 1937, *Woodson, Allen & Seibert 440* (Herb. Missouri Bot. Garden, TYPE).

PIPER yapeanum Trelease, spec. nov. Arbor ca. 15 m. alta; internodiis florigeris sat gracilibus brevibusque sparsiuscule subvillosis; foliis late lanceolatis gradatim anguste acuminatis basi inaequilateraliter rotundatis vel subcordatis 15–17 cm. longis 6–7 cm. latis inferne pinnate nervatis, nervis ca. 6 + 5 supra minute scabridis subtus sparse subvillosis, petiolo ca. 1 cm. longo sparse villosis; spicibus paene rectis 0.3 × 4.0 cm., pedunculo 0.5 cm. longo glabrato.—DARIEN: near the mouth of Río Yape, alt. 20 m., July 12–14, 1937, *P. H. Allen 351* (Herb. University of Illinois, TYPE, Herb. Missouri Bot. Garden, ISO-TYPE).

PODOSTEMONACEAE

MARATHRUM Allenii Woodson, spec. nov., rhizomate repente sat tenue frondoso; foliorum petiolo 1.0–1.5 cm. longo inferne basi saepius late vaginato, lamina late ovata vel oblongo-elliptica 2–13 cm. longa 1.5–4.0 cm. lata 5-pinnatifida, laciniis ultimis acutis vel obtusiusculis subdichotomis ca. 0.1 cm. longis linearibus; floribus solitariis rariusve subfasciculatis, spatheis 0.9–1.5 cm. longis cylindrico-obconicis margine profunde laciniatis, pedicellis usque 5 cm. longis apice in poculo calyciforme ca. 0.15 cm. diam. dilatatis, tepalis 6 minute triangularibus ca. 0.2 mm. longis; staminibus 6 filamenta 0.15 cm. longa inferne planiuscula superne filiforme, anthera anguste sagittata 0.25 cm. longa; ovario ovoideo ca. 0.3 cm. longo 0.1 cm. crasso distincte 6-nervato basi attenuato, stigmate basi connato 0.1 cm. longo; capsulis oblongo-ovoides ca. 0.4 cm. longis 0.2 cm. crassis.—COCLÉ: vicinity of El Valle, alt. 800–1000 m., on rocks in fast water, Dec. 22, 1936, *P. H. Allen 82* (Herb. Missouri Bot. Garden, TYPE).

This specimen keys to the neighborhood of *M. Schiedeanum* Cham. in Standley's 'Flora of the Panama Canal Zone.' However, a comparison of *Allen 82* with *Schiede & Deppe 965* (in Herb. Missouri Bot. Garden), the type collection of *M. Schiedeanum*, demonstrates that not only is the rhizome of *M. Allenii* very much more frondose, the enlarged bases of the leaf petioles almost stipular, but the spathellae are also distinct, those of *M. Allenii* being deeply and irregularly lacerate and those of *M. Schiedeanum* rather regularly and bluntly 2-lobed. The laceration of the spathella also serves to separate *M. Allenii* from *M. foeniculaceum* H. & B.

NYCTAGINACEAE

(*P. C. Standley, Chicago*)

NEEA ACUMINATISSIMA Standl. DARIEN: trail between Yavisa and Pinogana, March 17, 1937 (*Allen 268*). Previously known from Honduras and British Honduras.

MAGNOLIACEAE

MAGNOLIA sororum Seibert, spec. nov. Arbor 22 m.; ramuli juniores dense fulvo-pubescentes; folia petiolata persistentia; lamina elliptico-ovata vel obovata vel oblonga, basi obtusa vel rotunda, apice obtusa vel subacuta vel subacutata, 6–15 cm. longa, 3–9.5 cm. lata, coriacea, supra glabrescens, primo costae basim versus fulvo-pubescentia, subtus dense fulvo-pubescentia, leviter revoluta; petioli 1–3 cm. longi, apice canaliculati ceterum teretes dense fulvo-pubescentes; stipulae a petiolo liberae, extus dense fulvo-pubescentes; flores albi fragrantia; alabastrum initio bracteis spathoideis 2 deciduis inclusum; bractee extus dense fulvo-pubescentes; pedunculus 1.5–2.5 cm. longus, dense fulvo-pubescentia; tepala 9, 3 exteriora obovato-oblonga, 5.5–6 cm. longa 2.5–3 cm. lata, extus basi sparse fulvo-pubescentia, 6 interiora obovata basi angustiora, 5.5–7 cm. longa, 2–4.5 cm. lata, glabra; stamina numerosissima, 1.3–1.5 cm. longa, antheris sessilibus linearibus introrse dehiscentibus. Fructus 4.5–6 cm. longus; carpella 32–45, dense fulvo-pubescentia.—CHIRIQUÍ: valley of the upper Río Chiri-

quí Viejo, alt. 1800 m., July, 1937, *Gene & Peggy White 21* (Herb. Missouri Bot. Garden, TYPE).

This is apparently the first representative of the genus *Magnolia* to be reported south of Costa Rica. *M. sororum* differs from the other Central American species by being densely and generally fulvo-pubescent. It is immediately distinguishable from *M. poasana* (Pittier) Dandy, by its pubescence, broader and longer inner perianth segments, and greater number of carpels, and from *M. guatemalensis* Donn. Sm., which is a nearly glabrous tree with cuspidate leaves and fewer carpels. Its closest congener seems to be *M. Yoroconte* Dandy, on the basis of carpel numbers and the two spathaceous bracts which enclose the flower bud, but may be easily distinguished by its dense pubescence, larger leaves, and larger flowers. This species is quite abundant in a limited zone between 1650 and 2120 m., occurring both on the east and northwest side of the Volcán de Chiriquí. Named in honor of the two sisters, Gene and Peggy White, who made a special effort to recollect the plant after the writer's original specimens were lost by fire.

THEACEAE

(*P. C. Standley, Chicago*)

EURYA panamensis Standl., spec. nov. Arbor 10–12-metralis ut videtur dense ramosa, ramulis teretibus cinnamomeis, novellis sparse pilis brevibus adpresso-pilosis vel fere glabris, internodiis brevibus; folia parva breviter petiolata coriacea, petiolo crasso 3–4 mm. longo sparse breviter sericeo vel glabrato; lamina cuneato-obovata vel oblongo-obovata 2.5–5.5 cm. longa 1–2.5 cm. lata, apice rotundata vel obtusa, basin versus sensim cuneato-angustata, basi ipsa acuminata, margine basin versus integro vel subintegro, superne arcte crenato-serrato, crenaturis obtusis adpresso-incurvis, supra glabra, in sicco cinerascens sublucida, costa subimpressa, nervis vix prominulis, subtus pallidior, primo sat dense sericea sed cito glabrata, costa prominente crassiuscula, nervis lateralibus utroque latere ca. 12 tenerrimis prominulis angulo semirecto adscendentibus in marginem desinentibus, venis paucis re-

motis prominulis laxe reticulatis; flores solitarii vel geminati, pedicellis 9–12 mm. longis glabris plerumque recurvis; sepala adpressa paullo inaequalia, exteriora breviora, interiora 4 mm. longa suborbicularia, apice late rotundata et minute apiculata, glabra, minute ciliolata; petala alba glabra obovato-spathulata emarginata 5–6 mm. longa; stamina ca. 25, filamentis elongatis filiformibus antheris triplo longioribus, antheris brevibus apice sparse breviter pilosis; ovarium glabrum.—CHIRIQUÍ: valley of upper Río Chiriquí Viejo, alt. 1,300–1,900 m., July 16, 1937, *Gene & Peggy White 16* (Herb. Field Museum, TYPE; Herb. Missouri Bot. Garden, ISOTYPE).

The flowers are described as very fragrant. From all other Central American species of the genus the tree of Chiriquí is distinguished by the small, obovate leaves with very obtuse or rounded apex.

PASSIFLORACEAE

(*Ellsworth P. Killip, Washington*)

PASSIFLORA SALVADORENSIS Donn. Sm. CHIRIQUÍ: valley of the upper Río Chiriquí Viejo, near Monte Lirio, alt. 1300–1900 m., March 20, 1938 (*Gene White 25*). Previously known only from Salvador.

BEGONIACEAE

(*P. C. Standley, Chicago*)

BEGONIA **Allenii** Standl., spec. nov. Terrestri ca. 40 cm. alta, ut videtur erecta, caulibus sat gracilibus multifoliatis pilis laxis patentibus villosis vel glabratis, internodiis brevibus; stipulae deciduae tenues glabrae integrae late ovali-oblongae acutiusculae, apiculatae vel breviter mucronatae, 1 cm. longae; folia mediocria brevissime petiolata in sicco tenuia, petiolo gracili 5–9 mm. longo sparse villoso vel glabrato; lamina oblique cuneato-oblongata 7–11.5 cm. longa 2–3.5 cm. lata, apicem versus latissima, longe anguste attenuato-acuminata, basin versus longe sensim attenuata, basi paullo obliqua utroque latere acutissima, supra glabra viridis, subtus pallida, ubique

densissime cystosphaeriis pallidis obsita, glabra vel tantum ad costam praesertim basin versus sparse villosa, margine superne breviter sinuato-lobato atque remote serrulato, basin versus integro; cymae plerumque axillares laxae pauciflorae 2–5 cm. longae 2.5–8.5 cm. latae, basi bifidae, graciliter 3–7 cm. longe pedunculatae, pedicellis gracillimis viscido-villosulis 3–4 mm. longis, fructiferis usque 10 mm. longis; sepala exteriora floris masculi roseo-rubra glabra ovato-rotundata ca. 4 mm. longa atque aequilata, apice rotundata, basi subtruncata; capsula ambitu suborbicularis 8 mm. longa 10 mm. lata, glabra, basi et apice late rotundata vel subtruncata, trilobata, alis subaequalibus tenuibus reticulato-venosis ca. 3 mm. latis.—COCLÉ: vicinity of El Valle, north rim, 800–1,000 m., Feb. 14, 1937, *P. H. Allen 234* (Herb. Field Museum, TYPE; Herb. Missouri Bot. Garden, ISOTYPE).

Practically all the known *Begonias* of Panama were described by Casimir De Candolle, and their total number is not large as compared with those of Costa Rica. While I am uncertain as to the nearest affinities of the present plant, careful search of the literature shows that it is not closely related to any species known from Panama or Costa Rica. The penninerved leaves are distinctive, being very asymmetric, with a long, narrow acumination and a very long, narrow, tapering base.

This *Begonia* is only one of a considerable number of interesting additions made to the known flora of Panama by Mr. Allen, whose well-prepared specimens show a keen sense of discrimination in their selection.

COMBRETACEAE

(*P. C. Standley, Chicago*)

BUCHENAVIA CAPITATA (Vahl) Eichl. PANAMÁ: Río La Maestra, Dec. 4, 1936 (*Allen 35*). Genus new for Central America. It is rather probable that this represents a distinct new species, but the material (fruiting) is scant, and the observable differences are principally in the leaves. *B. capitata* has a rather wide range, from the West Indies to the Guianas and Brazil.

MYRSINACEAE

(P. C. Standley, Chicago)

ARDISIA furfuracella Standl., spec. nov. Arbor 6-metralis, ramis teretibus ferrugineis, novellis crassiusculis minutissime adpresse ferrugineo-furfuraceis, internodiis brevibus; folia inter minora breviter petiolata tenuiter coriacea, petiolo crassiusculo 5–8 mm. longo minute furfuraceo; lamina anguste lanceolato-oblonga 8–11 cm. longa 2.5–3.2 cm. lata subabrupte acuminata, acumine ipso obtuso, basi acuta, integerrima, supra in sicco olivaceo-viridis glaberrima sublucida vel opaca, costa gracili prominente, nervis obscuris non elevatis, subtus multo pallidior, ubique sat dense sed minutissime furfuraceo-lepidota, costa gracili prominente, nervis lateralibus utroque latere ca. 12 tenerrimis prominulis arcuatis angulo lato abeuntibus, venulis laxe reticulatis; inflorescentia terminalis bipinnatim paniculata foliis duplo brevior, dense multiflora, ramis crassiusculis dense minute furfuraceo-lepidotis, floribus umbellato-corymbosis, bracteis oblongis usque 6 mm. longis ut videtur deciduis pallidis sat dense punctatis, pedicellis brevibus; sepala ante anthesin vix ultra 1 mm. longa ovalia pallida dense punctata; cetera ignota.—CHIRIQUÍ: valley of upper Río Chiriquí Viejo, alt. 1,300–1,900 m., July 13, 1937, *Gene & Peggy White 8* (Herb. Field Museum, TYPE; Herb. Missouri Bot. Garden, ISOTYPE).

“A tree of 6 meters, with very hard wood; buds orange-yellow. Growing in open sunlight.” The material, unfortunately, is in very young bud, and it is impossible to describe the details of the flowers. The curious indument of the lower leaf surface, consisting of minute, dense, yellowish or brownish, peltate scales is not matched in any other Central American species known to me.

APOCYNACEAE

PLUMERIA INODORA Jacq. PANAMÁ: Bella Vista, Panama City, Feb. 20, 1938 (*Allen s.n.*). *P. inodora* has been recorded previously only from Colombia and British Guiana, apparently never in the cultivated state (cf. Woodson, Ann. Missouri Bot. Gard. 25: 206. 1938). In Panama it is known only from Bella

Vista, a rather newly developed "subdivision" of Panama City, where trees of considerable size are found occasionally in vacant lots as well as in the gardens of the pretentious residences of the community. Upon inquiry the owners of the trees invariably confessed complete ignorance concerning their origin. Hence, whether the species is indigenous or introduced cannot be ascertained at present.

STEMMADENIA DONNELL-SMITHII (Rose) Woodson. CHIRIQUÍ: vicinity of Río Tabasará, along highway, Aug. 11, 1937 (*Woodson, Allen & Seibert 411*). This tree has previously been known virtually throughout Central America from southern Mexico (Guerrero) to Costa Rica. As this station is only across the river from the province of Veraguas, the known distribution of the genus is thus extended considerably south of the Costa Rican border.

ECHITES TURBINATA Woodson. CHIRIQUÍ: valley of upper Río Chiriquí Viejo, between El Volcán and Cerro Punta, March 15, 1938 (*Gene White 6*). Previously known only from the type locality, near Rancho Flores, Costa Rica. Although almost unquestionably this species, Miss White's specimens show a much more luxuriant liana than the type specimen, the inflorescences averaging over 40 flowers, the corolla lobes of which attain 2.5 cm. in length.

ASCLEPIADACEAE

VINCETOXICUM discolor Woodson, spec. nov., fruticosa volubilis; foliis oppositis longiuscule petiolatis ovatis apice breviter subcaudato-acuminatis basi latiuscule cordatis 7.5–12.0 cm. longis 4.5–7.5 cm. latis membranaceis, nervo medio venisque supra subtusque minute ferrugineo puberulis nervo medio basi supra conspicue glandulifero, caeterumque glabris post exsiccationem saturate atropurpureo-discoloratis, petiolis 2.5–3.0 cm. longis basi fossulatis; inflorescentiis alternolateralibus subumbellatis longiuscule pedunculatis paucifloris, pedunculis 5–7 cm. longis ut in ramulis ut videtur semper glabris, pedicellis 1.5–2.5 cm. longis minute ferrugineo-puberulis, bracteis minutis; calycis laciniis ovatis late acutis obtusisve ca. 0.4 cm. longis extus dense minuteque ferrugineo-puberulis

intus glabris glandulas minutas 5 extra-axillares munitis; corolla rotata ca. 3 cm. diametro post exsiccationem saturate livida in vivo ut dicitur fulvida venis multis viridibus, extus minutissime ferrugineo-papillata intus sparse pilosa, lobis late ovatis rotundatis ca. 0.9 cm. longis 0.8 cm. latis patulis, corona 5-gona lobis complicate 3-partitis (vide fig. 1); gynostegio sessile ca. 0.35 cm. diametro antherarum apicibus super stigmatem inflexis post exsiccationem albo-caeruleis con-

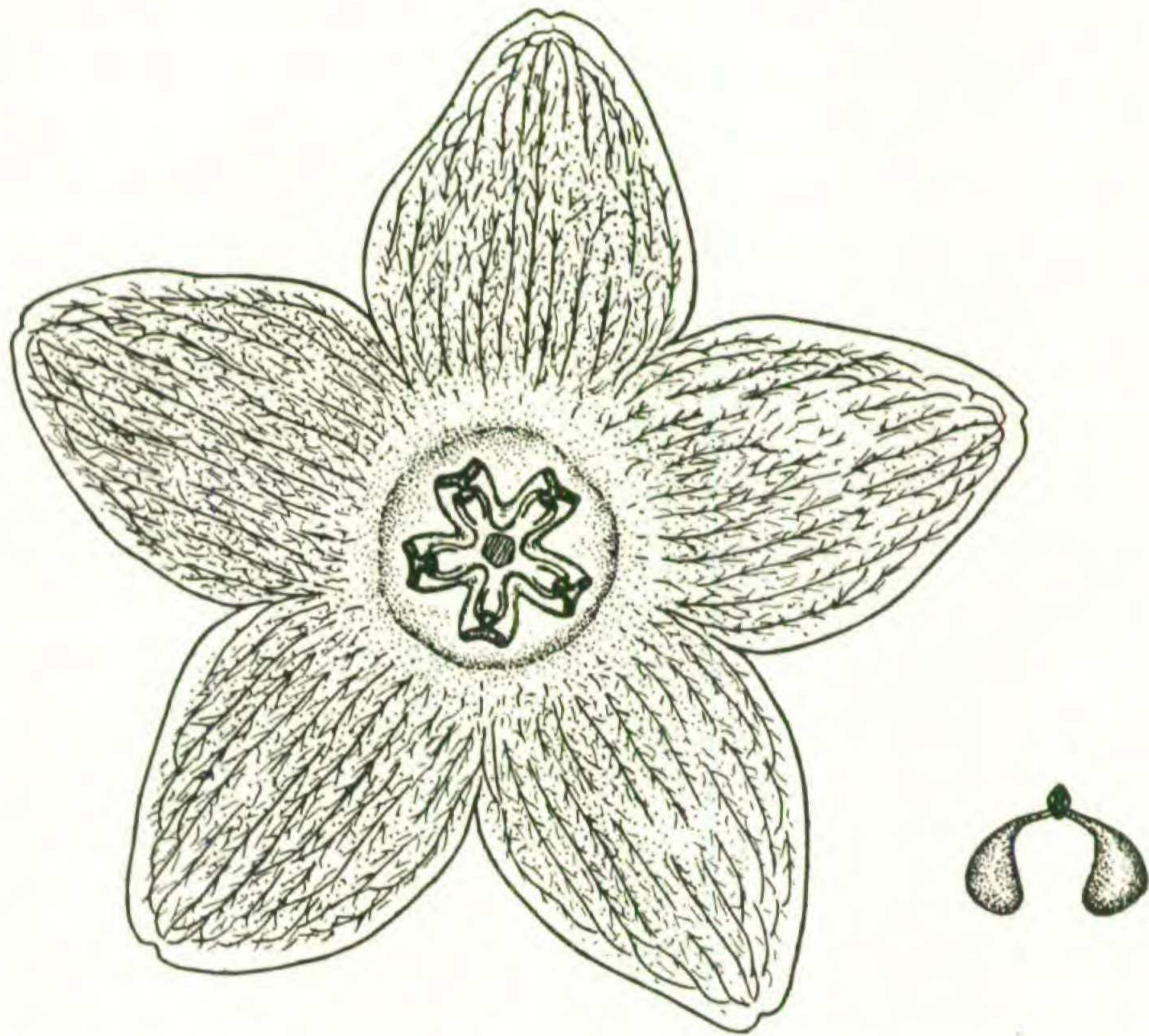


Fig. 1. *Vincetoxicum discolor* Woodson. Corolla (gynostegium removed to show corona) $\times 3$, and pollinia, $\times 10$.

spicuisissimis, polliniis late obpyriformibus subhorizontalibus cum caudiculo ca. 0.075 cm. longo, retinaculo sagittato ca. 0.025 cm. longo; ovariis ovoideis minutissime papillatis ca. 0.2 cm. longis; folliculis ignotis.—CHIRIQUÍ: trail from Bambito to Cerro Punta, alt. 1400–2300 m., April 6, 1937, *P. H. Allen* 322 (Herb. Missouri Bot. Garden, TYPE).

The literature concerning *Vincetoxicum* and its most closely related allies is so confusing that considerable temerity is nec-

essary for the publication of novelties without an exhaustive revision of the entire complex. Nevertheless it appears to me that *V. discolor* is quite outstanding amongst its congeners as I am acquainted with them. The marked and uniform discoloration of the dried foliage and flowers and the internally pilose corolla are rarities in the genus. One of the most striking features is the waxy pallor of the connivent anther-tips in the center of the darkly discolored, rotate corolla. Corona characters are so difficult to describe in this family that I have resolved, although rather belatedly, in the future always to accompany them with figures.

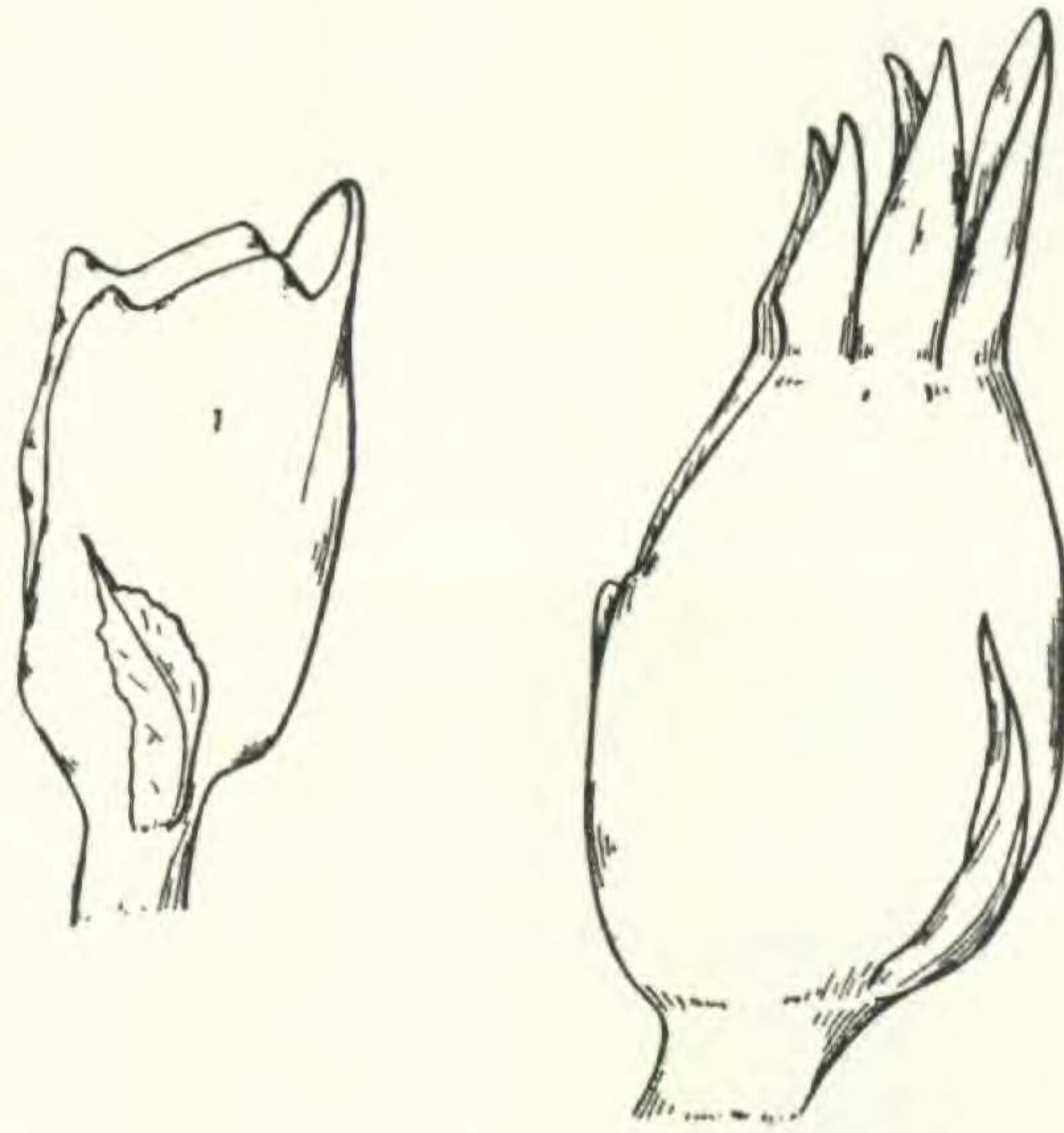


Fig. 2. Calyces of *Conopholis panamensis* Woodson (left) and *C. mexicana* Gray (right). Both figures $\times 6$.

OROBANCHACEAE

CONOPHOLIS panamensis Woodson, spec. nov.; caulibus simplicibus strobiliformibus dense minuteque papillatis 5–20 cm. altis super radices quercorum parasitis; foliis scariaceis ovatis vel ovato-oblongis acuminatis 1.0–1.7 cm. longis, margine plerumque minute irregulariterque eroso-denticulata; inflorescentiis multifloris subspiciformibus omnino dense minuteque papillatis, bracteis ovatis vel ovato-oblongis acuminatis 0.7–1.0 cm. longis, pedicellis 0.3–0.5 cm. longis, bracteolis 2 oblongo-obovatis obtusis vel apice abrupte mucronato-acuminatis 0.2–0.4 cm. longis; calyce exigue 2-labiato 0.4–0.7 cm.

longo, lobis obtusis plerumque integris sat validis; corolla 1.2–1.6 cm. longa valde 2-labiata; staminis filamenta 1.0–1.5 cm. longa, anthera 0.2 mm. longa basi breviter appendiculata; ovario ovoideo ca. 0.4 mm. longo, stylo haud crasso 1.0–1.4 cm. longo, stigmatate capitato; fructibus ovoideis 0.7–1.6 cm. longis, stylo caduco, seminibus fulvis ca. 0.15 cm. longis.—CHIRIQUÍ: trail from Bambito to Cerro Punta, alt. 1400–2300 m., April 6, 1937, *P. H. Allen 305* (Herb. Missouri Bot. Garden, TYPE); on hillside, valley of the upper Río Chiriquí Viejo, vicinity of Monte Lirio, alt. 1300–1900 m., June 27–July 13, 1935, *R. J. Seibert 298* (Herb. Missouri Bot. Garden, CO-TYPE).

Seibert 298 has previously been determined and cited in this series of contributions (Ann. Missouri Bot. Garden **24**: 202. 1937) as *C. americana* Wallr. From both the latter species and from *C. mexicana* Gray, however, *C. panamensis* may be distinguished by its calyx with rather shallow, broadly obtuse lobes and barely bilabiate structure. The calyx of the two former species is very strongly bilabiate in all material that I have seen, and the lobes acute to acuminate and much more deeply cleft. The broad bracts of *C. panamensis* recall those of *C. americana*, but the loss of the style in fruit resembles the similar condition of *C. mexicana*. In all material of the two previously described species that I have seen, the fruit disperses the seed by rupturing very irregularly. In the 38 specimens of *C. panamensis* that I have examined, however, slight pressure causes the fruit to break very regularly into two equal valves. The seeds of *C. panamensis* are about half again as large as those of *C. mexicana* and *C. americana*, and are distinguished also by their dark brown color. *C. panamensis* is common in the vicinity of the Volcán de Chiriquí, and has also been seen by me above Boquete.

RUBIACEAE

(*P. C. Standley, Chicago*)

GONZALAGUNIA rosea Standl., spec. nov. Frutex vel arbuscula 1–4.5 m. alta, ramis gracilibus teretibus brunneis, novellis dense pilis fulvidis vel sordidis subpatentibus vel adpressis

molliter pilosis, internodiis elongatis; stipulae 6–7 mm. longae e basi triangulari longe anguste attenuatae extus dense breviter hispidulae; folia mediocria breviter petiolata membranacea, petiolo ca. 1 cm. longo vel paullo ultra dense hispidulo; lamina lanceolato-oblonga 9–14 cm. longa, 2.5–5 cm. lata longe anguste attenuato-acuminata, basi acuta vel subobtusa, supra sat dense pilis brevibus plerumque patentibus pilosa, subtus fere concolor, molliter patenti-pilosa, costa gracili prominente, nervis lateralibus utroque latere ca. 13 valde obliquis angulo semirecto adscendentibus; inflorescentia anguste thyrsiformi-paniculata spiciformis solemniter elongata, sessilis vel pedunculata, usque 30 cm. longa atque 2.5 cm. lata, laxe multiflora, rhachi dense molliter pilosa, floribus in cymulas plerumque trifloras laxas breviter (vulgo 2–3 mm. longae) pedunculatas dispositis, pedicellis 1–3 mm. longis strigosis, bracteis minutis inconspicuis; hypanthium obovoideum 1 mm. longum strigosum, calyce 1.5–1.8 mm. longo campanulato extus sparse strigoso ad medium 4-lobulato, lobulis late ovatis acutis vel subobtusis suberectis; corolla rosea extus sparse vel dense albo-strigosa, tubo 6–8 mm. longo gracili tereti, lobis vix 2 mm. longis obtusis intus basin versus albo-pilosis; fructus depressoglobosus glabratus 4-coccus 2.5–3 mm. diam.—PANAMÁ: on damp, shaded stream bank, valley of the upper Río Chiriquí Viejo, Provincia de Chiriquí, alt. 1,300–1,900 m., July–Aug., 1937, *Gene & Peggy White 7* (Herb. Field Museum, TYPE; Herb. Missouri Bot. Garden, ISOTYPE).—COSTA RICA: without locality, *C. Hoffmann 534*; forests along Río La Paz de San Ramón, 1,000–1,025 m., *Brenes 4257*; Palmira, 2,100 m., in cloud forest, *Austin Smith 4217*; San Pedro Coronado, 1,400 m., *Manuel Valerio 1644* (all Costa Rican collections in Herb. Field Museum).

Probably a considerable number of Costa Rican specimens in other herbaria are referable to this species, which heretofore has been confused with *G. panamensis* (Cav.) Schum., a common plant in many parts of Central America. The two species are closely related, but *G. panamensis* seems to be constantly separable in the form of the inflorescence, consisting of sessile

cymules in which the flowers are sessile or very shortly pedicellate.

IXORA FLORIBUNDA (Rich.) Griseb. DARIEN: trail between Yavisa and Pinogana, March 17, 1937 (*Allen 298*). Previously known from Cuba, El Salvador, Nicaragua, Costa Rica, and the north coast of Colombia. Collected very recently also in Honduras.

CHIOCOCCA PHAENOSTEMON Schlecht. CHIRIQUÍ: valley of the upper Río Chiriquí Viejo, alt. 1300–1900 m., July–Aug., 1937 (*Gene & Peggy White 38*). Common in the mountains of Costa Rica, but previously unrecorded for Panama.

RAVNIA TRIFLORA Oerst. CHIRIQUÍ: valley of the upper Río Chiriquí Viejo, alt. 1300–1900 m., July–Aug., 1937 (*Gene & Peggy White 39*). A handsome epiphyte, quite unlike most Rubiaceae in appearance, more suggestive, in fact, of Gesneriaceae. The genus has previously been known only in Costa Rica.

GUETTARDA chiriquensis Standl., spec. nov. Arbor 8–9-metralis, ramis vetustioribus cinereis subdense lenticellatis obtuse tetragonis crassis, novellis densissime pilis brevibus patentibus fulvis hirtellis, internodiis brevibus; stipulae deciduae ovato-triangulares 12–13 mm. longae, attenuato-acuminatae extus dense fulvo-strigosae; folia mediocria longipetiolata herbacea, petiolo crassiusculo 1.3–4 cm. longo dense pilis patentibus fulvo-piloso; lamina suborbicularis usque late ovalis vel late ovato-ovalis 5.5–12.5 cm. longa 4–9 cm. lata, apice subacuta usque subrotundata et saepe abrupte breviter cuspidato-acuminata, acumine angusto acuminato, basi late rotundata vel subtruncata, supra in sicco viridis sparse breviter hirtella vel glabrata, costa nervisque vix elevatis, subtus paullo pallidior dense pilis brevibus patentibus mollibus fulvidis pilosa, ad costam dense longipilosa, costa crassiuscula elevata, nervis lateralibus utroque latere ca. 11 prominentibus gracilibus valde arcuatis angulo lato, interdum fere recto, divergentibus, venulis arcte parallelis transversis vix prominulis; pedunculi bifurcati, pedunculo crasso 4–15 mm. longo, ramis 1–2.5 cm. longis dense 4–9-floris, floribus arcte sessilibus,

bracteis minutis; hypanthium 2–2.5 mm. longum densissime fulvo-tomentulosum; calyx 1 mm. longus brevissime remote 5-dentatus; corollae tubus 18 mm. longus crassiusculus densissime pilis retrorsis fulvis sericeus, lobis 5 ca. 4 mm. longis, intus glabris profunde lacerato-lobatis atque crispatis; fructus 4-ocularis, acute 4-angulatus atque 4-sulcatus 7 mm. longus 5 mm. latus, puberulus.—CHIRIQUÍ: valley of upper Río Chiriquí Viejo, alt. 1,300–1,900 m., July 27, 1937, *Peggy & Gene White 22* (Herb. Field Museum, TYPE; Herb. Missouri Bot. Garden, ISOTYPE).

“Growing in open sunlight. Flowers light purple-white with a faint sweet odor.” The most closely related species of North America is *Guettarda crispiflora* Vahl, which occurs in mountain forests of Costa Rica and extends to the Lesser Antilles and Trinidad. That differs from the Panama plant in having much less abundant pubescence on all parts, the pubescence consisting wholly of closely appressed hairs. The leaves of *G. crispiflora*, too, are generally narrower and acuminate or long-acuminate, besides being often acute at the base.

PALICOUREA panamensis Standl., spec. nov. Frutex 2–3-metralis, ramis ut videtur viridibus obtuse tetragonis glabris, internodiis elongatis; stipulae in vaginam 5–6 mm. longam truncatam extus interdum sparse strigosam coalitae, lobis lineari-attenuatis erectis 6–8 mm. longis rigidis; folia intermaxima longipetiolata membranacea, petiolo gracili 2–6 cm. longo glabro; lamina oblongo-elliptica 12–23 cm. longa 4.5–11 cm. lata, apice subobtusa atque abrupte breviter acuminata, acumine obtuso anguste triangulari paullo ultra 1 cm. longo, basi acuta, supra in sicco viridis glabra, costa nervisque prominulis, subtus multo pallidior, ad costam gracilem prominentem sparse breviter adpresso-pilosula aliter glabra, nervis lateralibus utroque latere ca. 18 tenerrimis prominentibus arcuatis angulo lato fere recto divergentibus juxta marginem arcuato-conjunctis, venulis inconspicuis laxe reticulatis; inflorescentia terminalis anguste thyrsoideo-paniculata erecta 4–5.5 cm. longe pedunculata, ca. 14 cm. longa atque basi 8 cm. lata, laxe multiflora, ramis primariis divaricatis glabris basi bracteatis,

floribus cymosis, bracteis oblongis vel lanceolatis usque 4 mm. longis acutis vel obtusis ciliatis, pedicellis gracilibus rectis glabris usque 7 mm. longis; fructus juvenilis subglobosus basi rotundatus 3 mm. longus glaber, sepalis persistentibus ovali-ovatis viridibus acutis vel acuminatis usque 2 mm. longis.—CHIRIQUÍ: valley of upper Río Chiriquí Viejo, alt. 1,300–1,900 m., July–Aug., 1937, *Gene & Peggy White 14* (Herb. Field Museum, TYPE; Herb. Missouri Bot. Garden, ISOTYPE).

“Stems bright purple; fruit light green with dark green stripes. Growing in shade.” The mature fruits doubtless are substantially larger than the description indicates. The branches are hollow. Like most *Palicourea* species, this has no outstanding characters, but it is unlike any other species known from Panama or adjacent regions.

GENERAL INDEX TO VOLUME XXV

New scientific names of plants and the final members of new combinations are printed in **bold face** type; synonyms and page numbers having reference to figures and plates, in *italics*; and previously published names and all other matter, in ordinary type.

A

Abacina, 550
 Acarosporaceae, 554
 Acid reaction of pollen granules of *Tradescantia*, 460
Actinodaphne, 400; *angustifolia*, 418; *chinensis*, 386, 414, var. *oblongifolia*, 386, 414, var. *rotundifolia*, 385, 414; *cochinchinensis*, 404; *confertiflora*, 400, 401; *confertifolia*, 414, 416; *cupularis*, 399, 405; *ferruginea*, 407; *glaucina*, 410; *Henryi*, 407; *hongkongensis*, 414, 418; *Hookeri*, 414; *lancifolia*, 406, var. *sinensis*, 406; **Lecomtei**, 399, 413; *litseaefolia*, 408; *magniflora*, 403; *obovata*, 399, 404; *omeiensis*, 411; *pedunculata*, 414; *perlucida*, 409; *pilosa*, 404; *reticulata*, 412, var. **Forrestii**, 412, var. *glabra*, 412; *reticulata*, 413, var. *omeiensis*, 411; *rotundifolia*, 385, 414; *sesquipedalis*, 409, var. *cambodiana*, 409; *setchenensis*, 411; **trichocarpa**, 402; *Tsaii*, 408
 Additions, corrections, and revisions to the "Annotated Catalogue of the Flowering Plants of Missouri," 775
Adinandra lasiopetala, 355
Agalopisma, 622
Alectoria, 598; **antarctica**, 599, 600
 Algae in Marie Byrd Land, 467, 495, 520
 Algal components of lichens, 520, 735; of *Stereocaulon*, 739, 741, 743, 750
 Alkali reaction of microspore granules of *Tradescantia*, 460
 Allen, Caroline K. Studies in the Lauraceae. I. Chinese and Indo-Chinese species of *Litsea*, *Neolitsea*, and *Actinodaphne*, 361
Alonsoa, 438; *acutifolia*, 453; *caulialata*, 453; *incisifolia*, 453; *linearifolia*, 453; *linearis*, 453; *Mutisii*, 453; *procumbens*, 453
Alsine chamaedrios, 446
Alsines seu Spergulae dictae species africana, 444
 Amaryllidaceae, Panamanian, 824
 ANN. MO. BOT. GARD., VOL. 25, 1938.

Amelanchier canadensis f. *nuda*, 772
Amphiloma, 622
Anagallis capensis, 446, 452; *foliis sinuatis*, 437; *purpurea*, 446
Anisophyllum (sect.) 2, 10
Anisophyllum, 2, 10; *cordatum*, 62; *multiforme*, 45; *nodosum*, 10; *Thymifolium*, 67; *virgatum*, 59
 Antarctic Expedition, The second Byrd—Botany, 467
 Antarctica, botanical exploration of, 516, 517
Antirrhinum, 435
Anzia sect. *Pannoparmelia*, 586
 Apocynaceae: Panamanian, 832; Studies in the. VII. An evaluation of the genera *Plumeria* L. and *Himantanthus* Willd., 189
 Apothecial characters of *Stereocaulon*, correlation of, with cephalodial types, 746
Ardisia furfuracella, 832
Argopsis, 734, 736
 Asclepiadaceae, Panamanian, 833
Aspidosperma, 194
Audibertia (sect.), 98
Audibertia, 98; *capitata*, 123; *Clevelandii*, 119; *decurrens*, 110; *Dorrii*, 133; *grandiflora*, 110; *humilis*, 136; *incana*, 130, var. *pachystachya*, 125, var. *pilosa*, 133; *Mearnsii*, 131; *nivea*, 121; *pachystachya*, 125; *Palmeri*, 146; *polystachya*, 140; *spinulosa*, 113; *stachyoides*, 112, var. *revoluta*, 117; *Vaseyi*, 138
Audibertiella, 98; *argentea*, 131; *capitata*, 123; *Clevelandii*, 119; *Dorrii*, 133; *grandiflora*, 110; *humilis*, 136; *incana*, 130; *nivea*, 121; *Palmeri*, 146; *polystachya*, 140; *stachyoides*, 113; *Vaseyi*, 138

B

Baeomyces, 734
 Baker, Gladys E., Carroll W. Dodge and. The second Byrd Antarctic Expedition—Botany. II. Lichens and lichen parasites, 515